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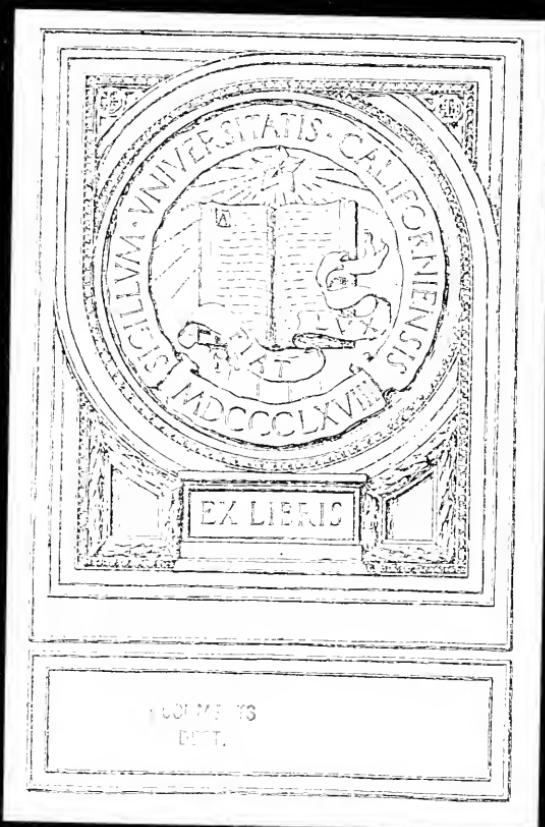
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HOUSING (SCOTLAND).

REPORT

of

Scotland
**Committee of Inquiry into the High
Cost of Building Working Class
Dwellings in Scotland.**

Presented to Parliament by Command of His Majesty.



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CONTENTS. 1921

DOCUMENTS

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TERMS OF REFERENCE	Page 3
CONSTITUTION OF THE COMMITTEE	3
REPORT :—				
INTRODUCTION	Paragraphs 1—5
GENERAL CONSIDERATIONS	....	....	....	6—17
Limitation of Subsidy Period	....	....	....	8—11
Extension of Subsidy Period	....	....	....	Paragraph 12
New Contracts	....	....	....	13
Allocation of Financial Responsibility between the State and the Local Authorities	....	....	....	Paragraphs 14—15
General Administration	....	....	....	Paragraph 16
Review of whole policy in three years	....	....	....	17
PROFITS OF CONTRACTORS	....	....	....	Paragraphs 18—23
FORMS OF CONTRACT	....	....	....	24—30
Lump-Sum Profit Contracts	....	....	....	Paragraph 25
Agreed Price Contracts	....	....	....	26
Sliding Scale Contracts	....	....	....	27
" Extras "	....	....	....	28
Necessity for Audit	....	....	....	29
Ultimate Return to Firm Contracts	....	....	....	30
MATERIALS	....	....	....	Paragraphs 31—46
Prices	....	....	....	Paragraph 31
General Observations	....	....	....	32
Bricks	....	....	....	33
Stone	....	....	....	34
Timber	....	....	....	35
Castings	....	....	....	36
Slates	....	....	....	37
Fireclay Goods	....	....	....	38
Cement	....	....	....	39
Alternative Materials	....	....	....	Paragraphs 41—43
Standardisation of Fittings, etc.	....	....	....	Paragraph 44
The Department of Building Materials Supply	....	....	....	45
Combinations	....	....	....	46
WAGES	....	....	....	47
LAND	....	....	....	48
OUTPUT OF LABOUR	....	....	....	Paragraphs 49—51
BUILDING GUILDS	....	....	....	52—59
DIRECT LABOUR	....	....	....	Paragraph 60
ECONOMIES IN CONSTRUCTION	....	....	....	Paragraphs 61—65
The Grouping of Houses	....	....	....	Paragraph 62
The Lay-out	....	....	....	63
The General Specification	....	....	....	Paragraphs 64—65
PRIVATE ENTERPRISE	....	....	....	Paragraph 66
RECONSTRUCTED PROPERTY	....	....	....	Paragraphs 67—69
SUMMARY OF FINDINGS AND RECOMMENDATIONS	....	....	....	70—71
NOTE BY MR DAVID RONALD AND MR JOHN WILSON	....	....	Page	31
RESERVATIONS BY MR J. F. ARMOUR, MR WM. CROSS, AND MR J. F. WALLACE	....	....	....	Pages 31—32
RESERVATIONS BY MR JOHN TRAIN	....	....	Page	32

**COMMITTEE OF INQUIRY INTO THE HIGH COST OF
BUILDING WORKING CLASS DWELLINGS
IN SCOTLAND.**

Terms of Reference.

To inquire and report as to the reasons for the high cost of building working class dwellings in Scotland and to make recommendations as to any practicable measures for reducing the cost.

Constitution of the Committee.

- Mr G. W. CURRIE, London, *Chairman.*
- Mr J. F. ARMOUR, Glasgow, Organizing Secretary of the United Operative Masons' Association of Scotland.
- Mr WM. CROSS, Glasgow, Secretary of the Amalgamated Slaters' Society of Scotland.
- Mr THOMAS GRAHAM, Edinburgh, Scottish National Building Trades' Federation.
- Mr F. H. LIGHTBODY, F.F.S., F.S.I., Edinburgh.
- Mr JAMES LOCHHEAD, F.R.I.B.A., Hamilton.
- Mr DAVID RONALD, M.I.C.E., F.R.S.E., Chief Engineer, Scottish Board of Health.
- Mr KENNETH SANDERSON, W.S., Edinburgh.
- Mr JOHN TRAIN, Building Contractor, Glasgow.
- Mr J. F. WALLACE, President of Edinburgh and District Trades' Council.
- Mr JOHN WHITE, Builder, Edinburgh.
- Mr JOHN WILSON, F.R.I.B.A., Principal Architect, Scottish Board of Health.

Secretary,

- Mr NIVEN F. M'NICOLL,
Scottish Board of Health.

NOTE.—The estimated cost of the preparation of this Report, including the expenses of the Committee, is £332, of which £18 represents the gross cost of the printing and publishing of the Report.

R E P O R T.

To the Right Honourable ROBERT MUNRO, K.C., M.P.,
President of the Scottish Board of Health.

SIR,

We, the Committee appointed by you by Minute dated 11th February 1921, to inquire into the reasons for the high cost of building working-class dwellings in Scotland, and to make recommendations as to practicable measures for reducing the cost, have the honour to present our Report.

We have held 21 meetings, at which evidence has been given by 57 witnesses, representing Government Departments, Local Authorities and their Officials, Contractors, Building Trade Operatives, Manufacturers, Merchants, and others, who had experience and knowledge of the subject of our remit. In addition, we have obtained evidence by correspondence, and have had at our disposal various public documents containing information relative to the subject of our inquiry. We have also visited representative housing schemes in progress under the Local Authorities of Edinburgh, Glasgow, Dundee, Dunfermline, and the Lower Ward District of Lanarkshire.

We desire to record our thanks to all those who willingly placed their time, knowledge, and experience at our disposal.

Introduction.

1. Our inquiry into the high cost of building working class dwellings in Scotland has led us by many paths to broad questions of policy under which we have found the detailed factors grouping themselves. It has been impossible, for example, to discover the causes of variations in prices in a particular area without finding ourselves involved in considerations of supply and demand—the needs of the area, the consequent demand, and the available sources of supply to meet that demand. It has been impossible in tracing the steady rise in costs of materials and labour to avoid consideration of the circumstances in which the State-aided scheme was launched, the construction and machinery of the scheme and the manner in which it has functioned. Thus we have accumulated a store of facts and impressions bearing on the housing conditions in Scotland and the State's effort to improve these conditions, but having also a direct relevancy to the question of costs.

2. The Royal Commission on Housing in Scotland, which was set up in 1912, reported in 1917 that "before the housing conditions in Scotland could be regarded as satisfactory, 235,920

houses, with all the necessary sanitary and domestic conveniences, would fall to be provided and that 121,430 are immediately necessary to relieve existing overcrowding, and to take the place of houses presently occupied which are clearly unfit and cannot be made fit for habitation." That Report recommended that a detailed survey of housing needs in Scotland should be undertaken by the Local Government Board. This survey was made and the Local Government Board—now the Scottish Board of Health—determined that the State-aided Housing Programme for Scotland should be set at 115,000 houses.

3. If we take it in a very general way that a house which a few years ago would have cost £300 has been costing £1,000, it will be seen that a startling change in the character of the problem has taken place within a very brief period. To complete this programme of 115,000 houses, the cost, say in 1916, would, on the basis we have taken, have been £34,500,000 ; to-day, it would be £115,000,000. This great increase in costs gives point to our inquiry, but, while it must be of imperative importance to have regard to costs and the financing generally of such a programme of housing, we cannot see that it is possible for the public conscience to relax so long as the housing conditions of Scotland remain as they are.

4. The state of working class housing in Scotland remains substantially as it was when the Royal Commission reported in 1917, and building is not yet overtaking the annual wastage. Some remarkable figures and facts have been presented to us by witnesses bearing on the wretched housing conditions in Scotland. In Glasgow, for example, which has set out with a building programme of 57,000 houses, there are at present 12,000 houses which are condemned by the Medical Officer of Health as unfit for human habitation, but which, owing to the impossibility of providing alternative and decent accommodation, are still occupied. In Lanarkshire, it is still true to say that several villages would require to be swept away entirely before the housing conditions could be raised to a minimum standard of decency.

5. We desire to record our unanimous conviction that no one with the most elementary sense of civic responsibility can be brought into contact with such scenes of crowded squalor as were forced upon our notice when visiting Dundee and Glasgow (where some two-thirds of the whole population live in houses of either one or two rooms), without a feeling of uneasiness as to the effects which these conditions may have upon the physical, moral and political condition and temper of the people. In our view there can be no slackening of the community's responsibility. The circumstances and form in which this responsibility should manifest itself may, however, in view of costs and financial difficulties now prevailing, require reconsideration. It is with this question, with the factors that have entered into the high costs prevailing to-day, and with measures towards reducing them that this report will deal.

General Considerations.

6. We think it well to deal in the first place with general considerations of policy and administration. Repeatedly throughout our inquiries into details these general considerations have emerged ; and our review of the evidence submitted to us has left us in no doubt that they are of first importance to the subject of our inquiry.

7. In dealing with them we do not wish to appear as though calling in question the way in which the State-aided Housing Scheme was launched ; that was, we must assume, and we believe, regulated by conditions as they appeared at the time ; and although our concern in this inquiry is with costs, we are not to be taken as holding that the housing policy of the State should be governed entirely by monetary considerations. The finance of housing in conditions immediately post-war presents a peculiar combination of problems. Many of the difficulties, while related to expense and economy, are not such as a mere outpouring of money will solve. On the contrary we have been impressed by the fact that for the speediest improvements and the keenest economy, we must look, not only to bills of costs, but also to a re-arrangement of the public time-table and the introduction into it of an element of elasticity as against the somewhat severely scheduled finality of its present form.

8. It is common knowledge that for several years before the war the house-building and ancillary trades in this country, as a result of various causes, were in a stagnant condition ; and that during the war the labour and other forces of contractors throughout the country were dispersed. Owing to the lack of building before the war, the production of many of the materials required in the construction of working class dwellings had largely ceased, and during the war the manufacturing resources of the country were largely concentrated on war materials. It was in this condition that, after the passing of the Housing and Town Planning (Scotland) Act, 1919, the trade was suddenly called upon to undertake an unprecedented programme of house-building. The intensity of the demand was increased by the fact that the period during which the subsidy was available to Local Authorities for their schemes was limited to three years. This limitation compelled Local Authorities to push forward with their schemes and to place their contracts as speedily as possible ; and it created the impression among contractors and others that the whole programme of the estimated requirements of working class houses in Scotland had to be completed within the 3 years. Not only so, but in the earlier stages of the discussions which led up to the actual legislation there was the intention to provide for an accounting between Local Authorities and the Treasury at the expiry of seven years ; this intention was departed from but we believe it did much to add to the apprehension of Local Authorities. In a very short time the house-building resources of the country were over-taxed. It became increasingly difficult to obtain tenders and recourse was

had to unaccustomed expedients to attract the attention of contractors. Materials became difficult to obtain, even at the steadily mounting prices ; the supply of labour became inadequate ; and, in many cases, owing to lack of materials and labour, work could not be forwarded.

9. This sudden concentration of demand into a short period had the inevitable effect of creating high costs everywhere. The trade and the manufacturers of building materials experienced all the advantages of a boom.

10. It is impossible to avoid the conclusion also that this limitation of the subsidy period had the opposite effect from that which was intended. The intention was to induce Local Authorities to push on energetically and to produce the badly-needed houses. The effect, however, was to produce contracts for houses rather than houses, and less than 2,000 houses have now been completed out of the total of 115,000 houses estimated to be required.

11. The housing needs of Scotland are serious and urgent, and it is not for us to suggest delay in their fulfilment. But we are convinced that the actual provision of the houses can be accelerated and cheapened by a re-arrangement of the programme. This conclusion, we think, is inevitable when we regard the extent to which changes in the position have taken place during the short period of our own sittings. Tenders have been received recently showing a reduction of more than £200 a house on the quotations current only a few months ago. Materials on the whole are becoming cheaper, and, unless the fall in the cost of living generally be arrested, the wages of the building trade operatives—already the subject of a slight agreed upon reduction—are not unlikely in the opinion of certain of the witnesses to tend somewhat further downwards. These changes must be regarded as demonstrating how quickly a problem of this kind will react to general movements.

12. We could not have avoided a recommendation that the Extension subsidy period should be extended ; but during the latter part of Subsidy Period. of our sittings this step has been taken, and the subsidy period has been extended from three to five years. We are aware that the housing commitments already entered into are sufficient to occupy the energies of Local Authorities in the large and populous centres for the whole of the period, though in many rural districts there is still labour available for housing schemes. To date, contracts for approximately 20,000 houses have been entered into, and as it cannot be contended that this figure will meet the housing requirements of Scotland, we think that it may be necessary hereafter to extend still further the period during which the schemes of Local Authorities will be eligible for State assistance.

13. Moreover, a further extension of the subsidy period New Contracts. would allow the authorities responsible for the execution of the schemes a greater amount of freedom than they have at present when they are bound by narrow considerations of time. The changes that are taking place, the prospective reductions in costs,

and the fact that the contracts already entered into, insufficient for the needs of Scotland as they are, will absorb the energies of all concerned for the full extended subsidy period, point inevitably, we think, to the advisability of withholding for the present further commitments until some at least of the advantages of the prospective falls in costs can be obtained. Much discrimination involving very full appreciation of local circumstances would be required in the application of any restrictions to schemes to which authorities stand committed and on which administration and other expenses will perforce continue, and our recommendation accordingly relates to entirely new projects.

Allocation
of financial
respon-
sibility
between the
State and
the Local
Authorities.

14. Under the Housing and Town Planning (Scotland) Act, 1919, the liability of Local Authorities for the annual deficit on housing schemes is limited to the produce of $\frac{1}{10}$ ths of a penny per pound on the rates. In the aggregate, the total expenditure of Local Authorities on housing schemes is on this basis very low compared with their total cost, and the stage is soon reached at which this liability of a Local Authority engaged in housing schemes terminates. We are aware, of course, that this basis was determined after full negotiation with Local Authorities themselves, and that it is related closely to principles of local government in regard to the devolution of responsibility from the central to the local Authorities. But viewed from the angle of observation from which it is our duty to survey the field, it is defective. In making this statement we do not here imply any criticism on the manner in which the Local Authorities have conducted their housing administration ; but the limitation of their responsibility was bound to give rise to conflict between the Local Authority's interest and duty as custodian of local funds and those of the Central Authority as custodian of national funds. In sixty years, the loans will have been paid off and the Government subsidy will have ceased, and it is natural that the Local Authorities should desire to have the houses as substantial as possible. This conflict has been apparent in much of the evidence placed before us. Local Authorities endeavoured, naturally, to secure features in their houses which would have added to their value, but which would have led to some additional expense. The Scottish Board of Health, in the interests of economy, has refused to allow these features as a charge upon the Treasury. This dual control has, on the whole, worked satisfactorily so far as the relations between the Central and the Local Authorities are concerned ; but the actual allocation of the financial responsibility gives an inevitable tendency to the local administration which is not positively conducive to economy. The evidence of several Local Authority witnesses themselves was quite frank on this subject.

15. Although we think it would have been more consistent with the need and desire for economy if the financial responsibility of the Local Authorities had been more direct, we do not feel justified in making any recommendation of a change in policy. The principles of rating and taxation in relation to

general principles of Local and Central Administration will come under review by the Committee on Local Taxation in Scotland, which is at present pursuing its deliberations ; and we make this reference here to the subject because of its bearing on costs, and simply to record that we have had it in our minds throughout our investigation. When the Report of that Committee is available this question, along with others, will no doubt be reviewed.

16. Consideration of the general policy of the State-aided housing scheme led us naturally to consideration of the manner in which the scheme has been administered by the Central Department, the Scottish Board of Health. After a careful examination and review of the evidence which has been submitted to us we have been impressed by the weight of evidence testifying to the fact that, despite the many difficulties of such a large enterprise, the Board has achieved a considerable administrative success. The solution of the many problems that presented themselves at every turn to the Department and the Local Authorities made heavy demands on the tact and judgment of the officials concerned. As we have pointed out already, there was inevitably a tendency towards a conflict of interest between the State and the Local Authorities, and naturally many instances of actual conflict on details have arisen ; but on the whole the relations which have been established between the Central and Local Authorities are satisfactory and smooth-working. Some of the evidence, for example, tendered by Local Authorities' representatives establishes that from time to time they desired to persuade the Board of Health to pass certain features of schemes involving expenditure as a charge upon the taxpayer, but it also establishes that the Board of Health has acted reasonably and with due regard to its responsibility to the taxpayer in insisting upon economies of design and execution. In this way the Board has maintained a reasonable balance between the zeal for immediate economy and the necessity for ensuring that savings effected be not "penny wise and pound foolish." The general specification issued by the Board of Health comes in for little criticism ; and the evidence satisfies us that the Board's specification is as little exacting as is consistent with stability of construction.

We have examined the figures which have been submitted to us for a number of schemes showing that the insistence by the Board's officials on economies at various stages has effected savings ranging from £10 to £150 per house, and we recognise that in the aggregate the total savings effected in this way on the contracts already entered into must amount to a very substantial sum.*

17. A review of those general considerations and the conclusions we have drawn from each leads us to believe that, owing to its fluctuating nature, the whole problem of the provision of houses for the working classes in Scotland should be reviewed in, say, three years, and that not only the requirements but also

General
Administra-
tion.

Review of
whole policy
in three
years.

* See Note by Mr David Ronald and Mr John Wilson, page 31.

the financial policy of State assistance should be included in that review.

Profits of Contractors.

18. We regret that we are unable to give anything but a very general opinion as to the profits which are being earned by Contractors engaged on State-aided Housing Schemes and their effects upon costs. Our inability to do so is due (1) to the fact that final accounts have not yet been rendered for a single scheme ; (2) to the fact that it does not appear to be the general practice except among the best equipped Contractors to keep records of costs according to an accurate system that would enable us to obtain reliable data on which to base a conclusion ; and (3) to the unwillingness of Contractors to put any estimate on their prospective profits on housing work.

19. We have, however, obtained information from various sources which has enabled us to arrive at a general opinion, which is supported by the inference that one would normally draw from the circumstances in which these contracts were entered into.

20. We have already alluded to the state of the building trade at the time when the housing scheme was launched and have, we think, established that a certain inflation of prices was inevitable owing to the operation of the ordinary laws of supply and demand. The demand for houses imposed by the launching of the scheme was unprecedented, and the capacity of the trade to meet that demand was probably as low as it has ever been. Competition for a period was really non-existent.

21. We have also information gleaned from the experience of the Scottish Board of Health and the Local Authorities in negotiating agreed price contracts. This shows that Contractors, when pressed, were able to reduce their tenders by very considerable sums whilst still leaving themselves a presumably satisfactory margin of profit. (We shall deal with the agreed price contract in greater detail under the heading of "Forms of Contract").

22. The evidence establishes the fact that in certain areas certain trades have by combination eliminated entirely competition for public contracts. Where this practice exists, it must have a very effective bearing on the question of cost.

23. In these circumstances, it is reasonable to believe that opportunities presented themselves for the earning of considerable and even undue profits, and that there have been instances of contracts being let not only at the top of the market for material and labour but on terms highly favourable to the Contractor.*

Forms of Contract.

24. We have examined the various forms of contract in use and have considered the evidence relating to each. We shall deal here with the lump-sum profit contract, the agreed price

* See Reservations by (1) Mr J. F. Armour, Mr Wm. Cross, and Mr J. F. Wallace, and (2) Mr John Train, pages 31 and 32.

contract and the one generally in use, *i.e.*, the ordinary form of contract with a private contractor, but containing a clause providing that the payments under the contract shall vary according to fluctuations in the cost of labour and materials. Guild contracts and the execution of work by direct labour will be dealt with in separate chapters.

25. In a lump-sum profit contract the actual cost of the Lump-sum work is paid by the Local Authority plus a lump sum ranging profit from £30 to £40 per house. The cost includes the salaries of all the staff employed on the site, but head office expenses and the remuneration of principals are met out of the lump-sum. The estimated cost is reached either by agreement or by taking in tenders. Where the actual cost is less than the estimated cost the contractor receives a bonus of from 25% to 50% of the difference. If the actual cost exceeds the estimated cost by an amount equal to $2\frac{1}{2}\%$ the contractor forfeits 20% of the excess so long as his remuneration per house is not reduced to less than £20. So far there is little experience of the lump-sum profit contract, as only one such contract has been entered into. But our conclusion from the evidence is against its continuance.

26. The agreed price contract was designed primarily to induce building trade contractors to take up a fair share of housing contracts. In any area in which it is decided to conform with this arrangement the local Employers' Association undertake to submit a tender and to apportion the work among all the contractors in the area according to the capacity of each. The final price is then adjusted by representatives of the Scottish Board of Health, the Local Authority, and the Employers' Association. It was hoped that by this means not only would the difficulties of securing the services of contractors be overcome, but that these services would be obtained at a minimum cost. The evidence which we have obtained on this form of contract is conclusive that it has not been a working success. Only 5 agreed price contracts have been approved by the Board. It was generally found that the first offers submitted by the Employers' Associations were excessive, and that it was only after a considerable amount of negotiation that the Board's and the Local Authority's officials were able to have the tenders reduced to such amount as the Board could approve. The whole conditions, however, which this form of contract was designed to meet —the difficulty of obtaining the services of contractors for housing work, etc.—have now passed away; and in view of the experience of the Scottish Board of Health and the Local Authorities, we have no hesitation in recommending that no further effort should be made to obtain agreed price contracts.

27. The instability of costs of labour and materials have made a general departure from fixed-price contracts inevitable. In nearly every contract that has been entered into, apart from the above special forms, there is a clause providing that the amount of the contract shall vary according to fluctuations in the costs of labour and materials during the execution of the

contract. Under this clause, if the costs of materials and labour rise, the amount of the contract is correspondingly increased ; if costs fall, there is a corresponding reduction. In addition $5\frac{1}{2}\%$ profit is allowed to the contractor on all such increases, and he is reimbursed for any extra net amount paid by him in respect of workmen's compensation, employers' liabilities, national insurance, and third party risks.

"Extras."

28. As a large proportion of the contracts which have been entered into, representing a total commitment of nearly £20,000,000, were entered into at a time when costs were rising, the total amount of the extra cost which will fall to be met when final accounts are rendered may reach a very high figure. We have been much impressed by the evidence submitted to us on this matter. Various estimates have been given to us by witnesses of the percentage which these "extras" will represent on the original contract price. Reviewing the whole of the evidence on this matter, we conclude that it will be well to be prepared for claims for "extras" amounting to between 15% and 20% on the earlier contracts which have been entered into.

29. Costs of labour and materials are now falling and consequently it may be expected that the sliding scale will begin to operate in favour of the authorities ; what has been lost in the rising market may be recovered to some extent in the falling market. But, in any case, large sums are involved and in the interest of the taxpayer it will be necessary for the Scottish Board of Health to undertake a scrupulously careful scrutiny and audit of all final settlements, and to see that full advantage is obtained from any fall in costs of material and labour. We are aware that this process will involve the expenditure of a certain amount of money, but the evidence leaves us in no doubt that neglect of it will involve the loss of a good deal more.

30. There is a noticeable disposition at present on the part of all concerned to return to firm contracts ; but, while we regard the firm contract as the most satisfactory form in stable and free competitive conditions, we are not sure that an immediate return to firm contracts would be advisable. A firm offer in present conditions must represent a speculation as to the prospective course of costs, and the *data* on which the authorities are able to estimate future costs are insufficient. If, however, our recommendation that entirely new contracts should not be entered into for a period of several months is adopted, conditions by then may be sufficiently stable to warrant Local Authorities in accepting firm contracts. We would welcome a return to such reasonable stability of conditions as would warrant complete reliance on firm contracts.*

Materials.

31. We have had submitted to us evidence on the various factors entering into the cost of the materials used in State-aided Housing Schemes, and we reproduce here a statement of the

**Necessity
for audit.**

**Ultimate
return to
firm
contracts.**

Prices.

* See Reservations by Mr John Train, page 32.

prices of the more important materials in Edinburgh in April 1914, 1919, and 1921 :—

Materials	Price at 1st April,		
	1914.	1919.	1921.
(1) <i>Bricks</i> .—Price of common composition bricks per 1000 F.O.R. ..	25/-	70/-	110/-
(2) <i>Cement</i> .—Price per ton ex Merchant's store according to British Standard Specification, excluding cost of sacks	38/- 3/9	107/- 7/6	123/6 9/6
Cartage			
	41/9	114/6	133/-
(3) <i>Timber</i> .—Price of Swedish Timber F.O.R. at Sawmill per cubic foot :—			
(a) White Timber .. 1/10 to 2/-	5/6 to 5/8	5/- to 5/6	
(b) Red Timber .. 2/4 to 2/6	5/6 to 5/8	5/- to 5/6	
(4) <i>Slates</i> .—Price per Mille (1200) for Welsh Slates 14" $\times 10''$	100/-	186/-	352/6
(5) <i>Light Castings</i> .—F.O.R. Edinburgh :—			
(a) Baths, cast-iron, white enamelled, with fittings complete	£5 0 0	£8 0 0	£12 0 0
(b) 5" beaded cast-iron rhones, $\frac{1}{8}$ " metal p. yard ..	1/1½	2/3	3/10½
(c) 3" cast-iron conductors, $\frac{1}{8}$ " metal, p. yard ..	1/8	3/-	4/11½
(6) <i>Lead</i> .—Price per ton F.O.R. Edinburgh for sheet lead	£22 15 0	£40 5 0	£34 15 0
(7) <i>Sanitary Goods</i> .—Price of white and buff fireclay w.c.'s	9/6	41/6	58/3
Price of white and buff sinks 24" \times 16" \times 10" ..	11/3	34/7	48/7
Price of white and buff tubs—24" \times 20" ..	19/9	67/-	92/4
27" \times 20" ..	22/6	75/4	106/-
(8) <i>Fireclay Goods</i> . — Price F.O.R.—4" drain pipes ..	9d.	2/-	3/3
6" drain pipes ..	1/1	3/-	4/10
(9) <i>Glass</i> .—			
2ft.—15oz.	1 $\frac{7}{8}$ d.	4 $\frac{1}{2}$ d.	3 $\frac{7}{8}$ d.
6ft.—15oz.	2 $\frac{1}{2}$ d.	5 $\frac{1}{8}$ d.	4 $\frac{3}{8}$ d.
2ft.—21 oz.	2 $\frac{5}{8}$ d.	5 $\frac{1}{2}$ d.	4 $\frac{7}{8}$ d.
6ft.—21 oz.	3 $\frac{1}{8}$ d.	6 $\frac{1}{4}$ d.	6 $\frac{1}{4}$ d.

32. We have also had before us the Reports issued by Committees under the Profiteering Acts on several of the principal materials. In view of the publication of these Reports, and of the fact that there is an Advisory Committee of the Board enquiring into materials we do not propose to deal with them in any great degree of detail, but before reporting upon the evidence relating to their various prices, etc., we wish to emphasise four points of general applicability.

- (1) We are not a little impressed with evidence of actual and prospective scarcity of several materials ; and with a view to obtaining ampler and cheaper supplies, we are in favour of foreign material being admitted into this country without being subjected to any unnecessary impediment ; believing that in this way a more reasonable level of price might be reached for home produced material. Bricks bulk largely in these schemes, and we are somewhat concerned at statements that have been made as to the prospect of there being a real scarcity of bricks for some time to come ; if this apprehension be well founded the effect upon the progress of housing in Scotland would be serious, and its reaction upon employment unfortunate.
- (2) Closely connected with scarcity is dearness, and the figures already quoted (pp. 8-10) speak for themselves. But apart from dearness, we regard the extent to which open market prices and those scheduled by the D.B.M.S. differ from each other as unsatisfactory ; this has weighed with us a good deal in our recommendation relating to that Department. This difference is noticeable and has introduced much uncertainty into many calculations such as fall upon official surveyors.
- (3) Some of the evidence goes to establish that under stress of scarcity, material of indifferent quality has not infrequently found its way into use. Indeed, it was admitted that the rejection of material on account of defective quality has largely ceased to exist. We regard it as absolutely essential that the ordinary processes of inspection followed by rejection of unsuitable material be strictly carried out in the future. An inferior quality of any one of the several lines of material used in a house may involve not only constant dissatisfaction and expense in maintenance, but may seriously affect the life of the house. We have listened with regret and serious concern to evidence on this matter.
- (4) Transport of material has frequently been before us as a factor which contributes largely to its cost. The difficulties in assembling material must have been great and undue criticism in this connection would be unjust. We are so much impressed, however, with what has been submitted to us on this point that we suggest that special care should be taken for the future. Instances have been submitted to us of materials being

sent upon journeys across country in what must be a very expensive manner.

33. The brick works available in the aggregate in Scotland **Bricks.** are quite insufficient for its own needs. We do not call in question the finding of the Profiteering Committee that such profits as the makers of bricks may heretofore have earned upon an average house cannot have exceeded £10, but we regard this figure as not incompatible with the possibility of undue profits being made on the current supply of bricks. In our recommendation as to rings and combinations one of the articles we have in view is brick. A witness who appeared on behalf of the Corporation of Glasgow stated that the advisers of that municipality expected to effect a saving of £37 per house built in Glasgow through the purchase by the Corporation of existing brick works, running them as a Corporation concern, and in this way eliminating ordinary commercial profits.

34. If, as we suggest, the attempt to use stone more largely **Stone.** is pursued, we are prepared to find that the extent to which quarries are in disuse may present a practical obstacle to progress. We do not call in question that labour and finance present difficulties to quarrymasters; and in this connection we call attention to the suggestion we make on page 17 of this report that the Board of Health might well accord some greater consideration to schemes where stone instead of brick might be used. We think that if this were done it would be an effective inducement to quarrymasters to re-work quarries now standing idle. We feel that no special inducement has been held out to Local Authorities by the quarrymasters to build in stone in preference to brick, and we think it would be to the interests of the quarrymasters to provide this inducement.

35. As distinct from bricks and stone, timber is a material **Timber.** for which we are to a large extent dependent on overseas supplies; the bulk of the timber used comes from Sweden. The evidence shows that within the last few months the price of timber has tended downwards. At present the cost of the timber required for an average working class house is about £110.

36. It is understood that, just as we depend largely on **Castings.** England for cement, so England depends largely on us for goods of this class. We regard with apprehension the evidence that the National Light Castings Association has a virtual monopoly of light castings.

37. We are assured that although an ample potential supply **Slates.** of slate of desirable quality exists in Scotland, the amount of capital which would be required for its development is regarded as prohibitive. As things stand the expenditure upon Welsh slates and their transportation by sea and land to destinations in Scotland is on a large scale. We do not have before us sufficient evidence to warrant us in expressing an opinion as to the practicability of the Ballachulish quarries being in one way or another brought into effective use. If, however, this could be done, the evidence shows that the slates obtainable there, which are of a very high quality, would be very

welcome ; further, anything which decreased the dependence of Scotland upon Wales for slate supplies would probably have some effect in bringing down the prices charged by Welsh producers who at present are in a position to dictate terms.

Fireclay Goods. 38. Here again the prices are affected or are open to be largely affected by trade combinations. Some of the prices at present being charged are six times the pre-war figure. On this point reference is made to our remarks in par. 46. We regret that the witnesses for this trade whom we invited to appear before us did not avail themselves of the opportunity.

Cement. 39. We regard the difference between the price of cement in London and the price in Scotland as unreasonably large, after making all allowances for freight and other charges. Subject to the British Standard Specification for Portland Cement being adhered to, we think that the use of Belgian cement might do something to reduce the price charged to buyers of the English commodity. The present cost of cement is a very important factor in the cost of building and tends to deprive us of the advantage of the alternative method of concrete construction.

40. We deal again with a number of points concerning the use of several of the above materials in the Chapter on "Economies in Construction," par. 65.

Alternative Materials. 41. We have received a large volume of evidence on the claims which are made on behalf of the various materials which compete for use in the building of working class houses. Since the housing scheme was launched there has been much controversy as to the relative merits of brick and stone construction. Scotland is a stone country, and undoubtedly the use of bricks on such a large scale to the almost complete exclusion in certain areas of stone has effected a revolution in the building trade in Scotland. Except in the Highland area and in a few other areas brick is almost exclusively being used. This is due entirely to the fact that houses of the standard required for housing schemes can be built more economically in brick than in stone. There is no doubt that the authorities, central and local, have been anxious to use stone and have taken active steps to encourage its use ; but so long as the houses which are being constructed in brick are of substantial and durable quality they cannot be expected to incur a greater expenditure solely on the ground of Scotland's natural preference for stone as being more durable. We think it reasonable to assume a feeling in Scotland unfavourable to brick building has a portion of its origin in the fact that the deplorable miners' rows in Lanarkshire are the best known domestic specimens of brick work in the north, and in the accustomed clause in feu charters forbidding the use of anything but stone. We learn from the Scottish Board of Health that there has now been adjusted a specification for stone work which aims at making it easier for stone to compete with brick.

42. We advise that a larger margin between the cost of brick and that of stone could reasonably be allowed by the Board. At this juncture the entry of stone into the market on a large scale would produce a healthy effect in a competitive way on the

supply and price of both brick and stone. There is abundant stone available in Scotland, and a large supply of labour for stone work—important considerations when both materials and labour are scarce.

43. So far the use of concrete in Scotland has been on a restricted scale ; but we think that, owing to the progress that is being made in the development of concrete as an economical and durable building material, Local Authorities should give full consideration to forms of construction in concrete.

We think that, as a general policy, reasonable competition between one material and another should be encouraged.

44. It appears to us from the evidence submitted that more Standardisation of Fittings,etc. might have been done to standardise fittings and certain materials. Several witnesses have urged that standardisation and production of these articles on a large scale might be resorted to more widely, notably in regard to bricks, grates, doors, and cast-iron fittings ; and we are inclined to agree that some arrangements might be made with manufacturers for standardisation on local lines where on a national scale the difficulties have hitherto been insuperable.

45. We have given careful consideration to the position of the Department of Building Materials Supply and its effect on the present and future cost of houses. The Department had its origin in the building difficulties encountered by the Ministry of Munitions during the war, but is now a branch of and directly responsible to the Ministry of Health in London. In Scotland it has a branch office with officials in charge of it. This Scottish Branch is not as a matter of departmental organisation under the control of the Scottish Board of Health, but the officials of the latter are in a position to keep those of the former informed in a general way as to prospective requirements in Scotland for material of various kinds. We are informed that the Scottish Board of Health has already arranged with the Scottish Branch of the D.B.M.S. to curtail and practically to cease its purchasing operations in certain materials, and has permitted numerous Local Authorities to make their purchases in the open market at approved prices.

The Scottish Board of Health has a veto upon the purchase of materials at excessive prices, and the D.B.M.S. has of late come to operate more and more as a mere distributing agency.

We consider that the limitation of the powers of the D.B.M.S. has all along militated against its usefulness.

We are of opinion that the Scottish Branch of the Department should be closed down with all convenient speed, and that the necessary steps should be taken to enable it to dispose of its current stocks.

In the process of liquidating the Department, such consideration as the Scottish Board of Health may find to be necessary should be given to whatever risk may be involved of quite small Local Authorities finding it difficult to effect their purchases in the open market in competition with the larger buyers.

Combina-
tions.

46. We cannot but attach importance to the extent to which "rings" and combinations have eliminated competition in the supply of the most important building materials, such as bricks, cement, light castings, pipes and fireclay goods. It is not within the terms of our remit to consider either the circumstances in which combinations had their origin or the services which they claim to render to the community; but we are concerned with the fact that after securing a firm footing they have eliminated competition and deprived authorities charged with the responsibility of spending public money of the protection which a system of genuine open competition used formerly to secure. We think that some action is immediately necessary to regain this protection to the taxpayer, and that in any trade where monopoly has been established or where for national purposes a preferential or favoured or protected position has been given to those whose products are required for working class dwellings, the taxpayer or his representatives should be armed with powers to secure such an investigation into costs of production as will protect the taxpayer against abusive or unfair manipulation of prices. From the evidence we have received in regard to building materials we endorse the opinion expressed by the Committee on Trusts in their Report, dated 24th April 1919 (Cd. 9236), in the following terms:—"We believe that it will be found necessary ultimately to establish further machinery for promptly and effectively dealing with such abuses as the Tribunal of Investigation (on Trusts) may discover."

Wages.

47. Wages bulk largely in the cost of building working class houses, and the increases that have taken place since 1914 have had an important bearing on the increased costs. The following figures supplied by the Scottish National Building Trades' Federation show the standard rates of wages per hour for various trades in Edinburgh and Glasgow in 1914:—

		Edinburgh.	Glasgow.
Bricklayers ..	..	10d.	11d.
Glaziers ..	..	9½d.	9½d.
Joiners ..	..	10½d.	10½d.
Masons ..	..	9½d.	10½d.
Painters ..	..	9½d.	10d.
Plasterers ..	..	9½d.	10d.
Plumbers ..	..	10d.	10½d.
Slaters ..	..	9½d.	10d.
General Labourers ..	..	6d.	7d.

Various increases were given throughout the war until, by agreement in November 1920, the wage for all the building trades was fixed at 2/4 per hour for Class A Districts, 2/3 per hour for Class B Districts, and 2/2 per hour for Class C Districts, and 1/11½ for all building trade labourers irrespective of district. Under a recent agreement wages have been reduced by 2d. per hour to take effect from 16th May 1921, and thereafter wages will be governed by a sliding scale based on the cost of living.

Land.

48. There has been little difficulty in obtaining land at a reasonable price for housing schemes, and the cost of land is not a factor in the increased cost of working class houses in Scotland. Generally, Local Authorities have been able to obtain land at prices much lower than those for which the land could be purchased before the war although in a few cases there were difficulties in regard to feuing conditions.

In those cases where difficulty has been experienced in agreeing on a price which the Scottish Board of Health would approve, the services of the Valuation Department of the Inland Revenue have been of considerable value. Up to 31st March 1921, the Valuation Department had conducted negotiations for a total of 2,968·657 acres, and had effected a total reduction of £192,979 on the amount asked by owners (£719,141), which represents a reduction of approximately 27%.

Output of Labour.

49. The evidence relating to the output of building trade operatives is conflicting and numerous statements have been made regarding it which, we are satisfied, we can safely reject as having their origin in misapprehension and in failure to take cognisance of various factors which vitiate a comparison between pre-war and post-war conditions of working. Comparison is made difficult by (1) the absence of reliable data as to pre-war rate of working, and (2) the adoption of less familiar methods of construction.

We have received evidence as to the output of labour of various trades. We shall deal in the main with bricklaying only, as it is perhaps of all the trades concerned the one most easily measured in terms of output.

There is sufficient evidence to prove the existence of various factors, largely outwith the control of the operatives, which have reduced the output of bricklayers since 1914. They are as follows :—

- (1) The war removed from the trade many of the young and most energetic operatives. A large number were killed and many of those who returned were physically impaired.
- (2) The experience of operatives on war contracts has not been conducive to rapid methods of working. The loosely arranged terms of many contracts for munitions of war of all kinds in the earlier days of the war, and the wide prevalence of work done for our own and foreign Governments on a basis of "time and lime" to use the colloquial phrase, are accountable for slackness among operatives and contractors alike. Where the greater the extravagance the greater both the contractors' profits and the operatives' wages, economy was scarcely likely to hold its own.
- 3) The reduction of the number of hours per week.

(4) Delays in the delivery of materials for housing contracts clearly accounted for a good deal of slowing down.

50. There is a remarkable consensus of evidence that during the last few months the output of bricklayers and other operatives has increased in a marked degree ; and it is noteworthy that several contractors testify to the fact that many of their workmen who have been engaged with them throughout have all along produced at a high and uniform rate, and that others lay emphasis upon the fact that the output of labour depends very largely upon the skilful supervision of contractors themselves. There is evidence which we must accept to show that in certain schemes the output of bricklayers has touched as low a point as 261 bricks per day, but this figure must be regarded as quite exceptional. Many contractors speak of an output ranging from 300 to 600 bricks per day and even more. The evidence of the Board's Surveyors is that a difference in output between 700 and 300 bricks a day would account for a difference in the cost of an average house of £62. 10s., and the calculation is useful as a general indication of the extent to which labour costs bulk in the total cost of working class houses.

51. We conclude that there was especially in the year 1920 a decrease in output, and we are satisfied from the evidence that the rate of output has recently been restored more nearly to its previous level.*

Building Guilds.

52. So far there is little experience of the operations of the Building Guild Committees in Scotland on which to base conclusions as to the influence of the Guild movement on the cost of building. Several Guild Committees have recently been set up in Scotland, notably in Edinburgh, Glasgow, Dundee, and Dunfermline, and among them we understand these Committees have already tendered for contracts to the value of several million pounds sterling. Several of these tenders are known to have been rejected on the ground that they were higher than those from private contractors. The Glasgow Building Guild Committee is at present carrying out a contract for the plumbing work of a scheme in the Burgh of Rutherglen, and, we understand, to the entire satisfaction of the authorities. Their original estimate, we learn, was approximately £2,000 less than the next lowest tender.

53. In view, however, of the important bearing which the operations of Building Guilds may have on the cost of building working class houses, we have had submitted to us evidence by the Secretary of the National Building Guild, Limited, on the constitution and aims of the Guild movement, and on the actual experience of the Guild Committees in England.

54. It is unnecessary here to refer in detail to the constitution of the Guild bodies as information on this subject is fairly

* See Reservations by Mr J. F. Armour, Mr Wm. Cross, and Mr J. F. Wallace, page 31.

widespread now. Briefly it may be stated that the Guild Committees are local bodies of workmen and technicians who undertake the building of houses on contract. These Committees are affiliated to the National Building Guild, Limited. The Guilds set out on the basis of making labour the first charge on their industry. Under the Guild Contract Guild Committees build for net prime cost of labour and material, plus 6% for administration and other charges, plus a round payment of £40 per house. They guarantee continuous pay to the operatives, *i.e.*, payment for loss of time due to wet weather, etc.

55. Owing, we understand, to the experimental nature of the movement, the English Ministry of Health have limited the number of contracts to be granted to the Guilds to a total of sixteen for the provinces and four for London, and Building Guilds throughout England have at present in hand contracts to the value of approximately two million pounds sterling. There is no such limitation imposed by the Scottish Board of Health.

56. So far as information is available, the operations of the Guild Committees in England appear to be successful though on a small scale. The first completed houses, which were built by the Guild Committee for the Bentley Urban District Council, have been completed in four months at a total cost of £760 per house. The completion of the houses at a total cost of £760 per house, which is £70 below the figure (£830) which the Guild estimated, may be taken as a saving of approximately £200 per house as against private contracts.

57. The advantages which were claimed for the Guilds by their own witnesses were as follows :—

- (1) that the elimination of profits represents in itself an economy ;
- (2) that the continuous pay to the operatives gives a sense of security which reacts beneficially on the quality and speed of their work ;
- (3) that the constitution of the Guilds and their relations with Trade Unions practically guarantee them against strikes and that lock-outs are impossible.

58. Several representatives of Local Authorities who appeared before us stated that they saw no reason why a Guild contract should not be entered into, and that they were indeed anxious to encourage the Building Guilds. The principal Guilds' witness informed us that the chief obstacles in the way of their undertaking large numbers of important contracts were, as can easily be understood, financial ; but that they could undertake a great deal more work than they have been entrusted with without over-burdening themselves with financial responsibilities. From the point of view of the Local Authority the element of uncertainty as to the price charged by a Guild is an inconvenience ; the supporters of the system claim that it is more than counterbalanced by the advantages above set forth.

59. In our view sufficient warrant exists to justify Local Authorities considering tenders from Guilds, although a number

of us are of the opinion that they should only do so where the Guilds compete on the same terms as private contractors.

Direct Labour.

60. We have received evidence from a number of Local Authorities in which work under the housing schemes is being carried out by direct labour. Many of the larger municipalities are making it the practice to carry out the street works themselves, but so far the actual building of houses by direct labour has not been undertaken except on a very small scale.

The evidence in regard to direct labour on street work is to the effect that for well-equipped Local Authorities it is cheaper than private contracts; but the experience of direct labour generally is too limited for us to make any definite recommendation with a view to reducing building costs.

Economies in Construction.

61. From evidence which has been led and our own observation, it appears to us that in the actual execution of housing schemes certain economies might be effected which, although perhaps small when considered separately, would in the aggregate and when applied to a whole scheme represent not unsubstantial savings. These relate to the grouping of houses, the layout, and the General Specification.

The Grouping of Houses.

62. In schemes already on foot the majority of the houses have been built in semi-detached blocks, although in certain schemes flatted houses in blocks of four dwellings have been introduced as a variety, and in a few cases terraces have been adopted.

From evidence submitted there seems no special reason why Local Authorities should have favoured the semi-detached block, except for the purposes of segregation, and it seems to us that, where the ground is reasonably level, the terrace cottage block in groups of four to six houses should receive more consideration, both on the score of economy of construction and utilization of ground. The objections urged by one witness against the common path necessitated by groups of four houses can be overcome. Figures submitted to us show an estimated saving per house by building in terrace blocks as against semi-detached blocks of from £40 and upwards per house.

The Lay-out.

63. From actual observation of schemes in execution, it is apparent that considerable expenditure has been incurred through under-building on sloping sites, and we consider that economies might be effected as follows :—(a) Where the ground slope is in the length of the block the floor levels could be stepped; this would not only reduce underbuilding but could also be made to contribute to the architectural effect. (b) Where the blocks are built on the lower side of a roadway running along a slope the floors could be level with or, where the slope is considerable, even below the road formation. We can see no necessity for the floors in such cases being above the road formation, nor any objection to the foot-path sloping downwards to the block.

64. The evidence submitted to us on the subject of the Scot. The General tish Board of Health's General Specification issued in December 1919, to which the construction of the houses must conform, confirms the view of the Board's officials that generally the Specification could not be reduced without prejudice to the durability of the houses. On the other hand, subject to our observations in paragraph 32 (3) in regard to the risk of inferior materials affecting the life of the houses, we are satisfied that while the Specification leaves no room for economy except in a few details, the houses that are being constructed in conformity with the Specification will last throughout, and even beyond, their estimated lifetime of 60 years, being the loan period fixed in the Act, and that the criticisms levelled against the Specification on the ground that the houses constructed in conformity with it are unsubstantial and will not stand the strain imposed by the Scottish climate are not justified in fact. These criticisms, we presume, are based on a comparison with the traditional prodigality with which building materials in many cases were used in Scotland.

65. We mention a number of details, which, in the light of the experience gained in connection with the State-aided houses, we consider are worthy of attention :—

Bricks.—Reference has already been made to the matter of standardisation of building material. We think that this is specially applicable to the sizes of brick. At present these range in Scotland from 3 in. to $3\frac{3}{4}$ in. thick, and involve obvious complications when used on the same structure, while the cost of building the thinner brick is greater. In our view the size of brick should be standardised at $3\frac{1}{2}$ in. thick.

Drains.—We are of opinion that economies could be effected by a further simplification of drainage. As all fittings as a rule are trapped the disconnecting trap placed outside the house might be dispensed with if adequate ventilation for the system can be obtained. Upright ventilation pipes might also be saved in the case of fittings on the ground floor where the distance therefrom to the drain is short. These economies the Board have obtained in many cases, but we think they should be insisted on in all cases, even where the local bye-laws do not permit of such being done.

Timber.—It has been submitted in evidence that home timber properly seasoned has been found satisfactory, and, up to the present, cheaper than imported timber. So long as the costs remain in the same relative position we are of opinion that the home timber merits consideration.

Slating.—We have had evidence that there has been a large demand for certain sizes of Welsh slates, this demand ranging from $12'' \times 8''$ to $14'' \times 8''$, and even larger, and, in consequence, the price of these has increased as the stock has decreased. Certain smaller sizes of slates, which are considerably cheaper and range from $12'' \times 8''$ to $10'' \times 6''$, have been invariably neglected, and we consider that, where the roofs are not too flat these could be specified with advantage, with the provision that

the cover should not exceed 2", and that slates under $13'' \times 7''$ should be single-nailed with a nail driven between the bond every third course.

Rainwater Pipes.—We suggest that, in view of the high cost of cast-iron piping, zinc rainwater pipes might be more freely substituted than at present, and that zinc valley gutters might be used instead of lead in districts where atmospheric conditions are not unfavourable to the use of zinc.

Hot Water Supply.—This is invariably provided by means of a boiler, a cistern, and a circulating tank. It has been found that the cistern can be dispensed with by feeding the circulating tank direct from the main. The tank, of course, requires to be specially made to resist something like 80 lbs. pressure, but such tanks could be standardised. A saving can be effected in first cost and upkeep by this arrangement.

Baths and Wash-hand Basins.—These are usually separate, although discharging into the same waste pipe. Economy in cost and space can be effected by the freer use than at present of combined arrangement which utilises one trap and one set of taps.

Plaster Work.—Evidence which has been submitted has disclosed that two coat plaster is quite satisfactory for ceilings of upper floors for breeze partitions and for hard wall plaster, but that in certain areas the trade district bye-laws will not allow this to be done. We think that an effort should be made to have this embargo removed in those districts in which it exists.

Private Enterprise.

66. It is notable that in Scotland the Housing (Additional Powers) Act, 1919, which was designed to encourage private enterprise in building working class houses has been comparatively unsuccessful. Of the 22,000 houses for which contracts have already been entered into, little more than 2,000 houses are being built with the aid of the Government subsidy to private persons. As costs are at present, the subsidy of £230 to £260 is not sufficient to induce the builders to enter to any extent on operations under the Scheme. Here and there, despite the inadequacy of this subsidy from his point of view, a speculative builder has constructed a few houses for immediate sale; but speculative building as it was known thirty years ago is practically non-existent. The high level at which rates and taxes now stand is no doubt calculated to deter builders from enterprise. The economic rent of a house which is at present costing £1,000 to build would be at least £70 a year; the rent which is being charged by Local Authorities may be taken as an average all over Scotland of £25 a year; so that the annual loss on the barest estimate amounts to approximately £45. At 6% this represents a capital sum of approximately £750. Against this figure, the subsidy of £230 to £260 is seen to be clearly inadequate to induce the speculative builder to enter the field, and we do not see any immediate prospect of private enterprise taking any substantial part in the provision of working class houses in

Scotland. Notwithstanding the inadequacy of the subsidy to meet the difference between the cost and the economic value of houses, a number of persons are availing themselves of the private subsidy and making good the deficit themselves. To the extent to which this deficit is made good by private persons the public purse would appear to be relieved. At the present cost of building it would indeed appear that even with an increased subsidy the State would benefit financially from the private subsidy as against the subsidy to Local Authorities. There are, however, so many factors which must be considered in connection with this question—many of them outside the scope of our remit—that we do not feel justified in making any recommendations but content ourselves with pointing out that while in present conditions the private subsidy will not reduce the actual cost of building, it will, so far as it is taken advantage of, reduce the State expenditure on housing. There are many difficult questions involved in this matter, and the situation would require to be reviewed very closely at short intervals.*

Reconstructed Property.

67. There is little evidence available as to the cost of schemes for the reconstruction of slum areas. The acute shortage of actual housing accommodation has prevented Local Authorities from embarking yet on any extensive programme of reconstruction, as it is impracticable to close the slum dwellings until there is alternative accommodation available for the present occupiers. But a few of the larger Local Authorities, e.g., Glasgow and Edinburgh, are making a beginning. The experience of Edinburgh is that insanitary property in the older parts of the town can be converted into serviceable houses at approximately half the cost of new houses. To this saving on actual building there must be added the savings effected in municipal services, e.g., roads, water, drainage, gas, etc.

68. We think that the time is rapidly approaching when, in the larger centres at least, reconstruction schemes will assume first importance in the problem of housing. The housing problem is a dual one—the building of houses to meet the actual shortage and the building or reconstruction of houses in substitution for insanitary dwellings. Apart from the necessity, in the interest of public health, of clearing out slum areas, and the comparative cheapness of reconstructing slum property in these places where the buildings, although old, are still substantial, it will be found, we think, that the conditions of town life in Scotland demand the provision of housing accommodation near the centre of things, and that the larger municipalities, therefore, will have to embark very soon on extensive reconstruction schemes.

69. There is one other aspect of this question of slums to which we think it well to refer here. It is notable that the schemes for the provision of houses for the working classes are

* See Reservations by Mr J. F. Armour, Mr Wm. Cross, and Mr J. F. Wallace, page 32.

still leaving the problem of the slum dweller untouched. The tenants that are being found for the new houses are generally of the best paid artizan class and the lower middle class. The expectation has been that improvement of housing conditions in Scotland would be effected by a process of elevation by grades, *i.e.*, that the type of artizan who would occupy the new houses would leave his old house available for the present slum-dweller. We are very doubtful whether in present social conditions this expectation is likely to be fulfilled; the indications are that the ladder process will not work automatically and that, in many cases, the slum-dweller will remain in his present environment until that environment is altered. To pursue this question would lead us away from the subject of our inquiry. We refer to it here, however, in the hope that the whole problem of slums will be thoroughly investigated in the near future.

Summary of Findings and Recommendations.

70. Our leading findings may be summarised as follows :—

(1) *Extent of Problem.*—Houses such as would have cost in 1914 about £300 each have been costing recently fully £1,000, and on this basis it appears that the carrying out of the programme which has been set for the Local Authorities in Scotland at 115,000 houses will involve an expenditure of about £115,000,000, exclusive of "extras." This programme represents about one half of the building operations reported as necessary in Scotland by the Royal Commission on Housing in Scotland, appointed in 1912; and in our view the housing conditions in Scotland are as bad to-day as they were when the Royal Commission reported in 1917 (paragraphs 2-5).

(2) *Duration of Problem.*—In our view, a mere willingness to spend and to spend rapidly this sum of money is not, in itself, sufficient to secure the execution of the programme within any such short period as has commonly been contemplated (paragraph 7).

(3) *State of Building Trade.*—The building trade as a whole at the time when the housing programme was launched was in a state of partial disorganisation and speedily became overtaxed. The difficulty so arising was accentuated by scarcity of both labour and material, but particularly by a scarcity of material, which is by no means at this date overcome (par. 8).

(4) *Limitation of Subsidy Period.*—The limitation of the subsidy period to 3 years has led to a degree of congestion which rendered it impracticable to make such rapid progress as was originally contemplated. Further, this congestion at once created a large and concentrated demand for materials upon markets, most of which were inadequately stocked and organised, and in this way is accountable for the raising of prices to an abnormal level. We have noted that during our sittings the Government has extended this period by a further two years (pars. 8 to 12).

(5) *Recent Fall in Costs.*—It is satisfactory to note that during the short period of our own sittings, tenders have shown

a marked downward tendency, amounting to as much, in certain cases, as £200 per house (par. 11).

(6) *Allocation of Financial Responsibility.*—The share of the financial burden assigned to Local Authorities was settled, we are aware, after full negotiation with them ; but the evidence satisfies us that the position assigned to them has limited their direct interest in keeping down expenditure. The proceeds of the rate authorised to be levied are rapidly exhausted : and without intending to suggest that Local Authorities have acted without regard to economy, the evidence satisfies us that the risk of a divergence of interest and view between the Local Authorities and the Central Authority is greater than is desirable (pars. 14-15).

(7) *Scottish Board of Health's Administrative Success.*—The task entrusted to the Scottish Board of Health of launching and controlling so large and complex a scheme has been an administrative one of no ordinary difficulty ; and the Board is, in our view, to be congratulated on having achieved a considerable success. It has, we believe, maintained a reasonable balance between zeal for economy and anxiety to carry out the housing programme in a satisfactory way ; and it has maintained smooth working relations with Local Authorities (par. 16).

(8) *Main Causes of High Cost.*—Among the main causes of the high cost of building the houses required are the high level to which wages, materials, the profits of manufacturers, merchants, and in some cases, contractors, have risen, and the shortening of the working week.*

(9) *Contractors' Profits.*—We think it reasonable to believe that there have been instances of contracts having been let on terms highly favourable to contractors ; but the scanty nature of evidence obtainable renders it impracticable for us to report upon this point more definitely (pars. 18-23).

(10) *Forms of Contract.*—We find that for the future it is inadvisable to make any use of the lump-sum profit and agreed price forms of contract. We regard them as justifiable expedients adopted in abnormal circumstances. There is a noticeable disposition on the part of all concerned to return to firm price contracts. We regard this form of contract as more satisfactory than the two just mentioned ; but it appears doubtful whether an immediate and complete return to it is practicable. This depends largely on the extent to which trade conditions become stabilised (pars. 24-30).

(11) *Forms of Construction.*—Brick construction has, so far, been found to be considerably less expensive than stone, and has, for this reason, been relied upon in connection with the great bulk of the work already entered upon. The extent to which houses of concrete and other alternative forms of construction have been authorised is small (pars. 41-43).

* See Reservations by Mr J. F. Armour, Mr Wm. Cross, and Mr J. F. Wallace, page 32.

(12) *Standardisation.*—Such efforts as have been made to secure standardisation of material have met with very partial success (par. 44).

(13) *Department of Building Materials Supply.*—The Scottish Board of Health has already arranged with the Department of Building Materials Supply to curtail its purchasing programme (par. 45).

(14) *Rings and Combinations.*—The existence of rings and combinations has eliminated competition in the supply of many materials (par. 46).

(15) *Land.*—No part of the increased cost can be attributed to the cost of land (par. 48).

(16) *Output of Labour.*—The causes which, in our view, lie at the root of decreased output on the part of operatives are stated in the Report. They are largely outwith the direct control of operatives. The most important feature of evidence on this point is the general concensus of opinion that recently output has very greatly improved (pars. 49-51).

(17) *Building Guilds.*—Building Guilds have established themselves in Edinburgh, Glasgow, Dundee, Dunfermline, and several smaller centres ; but, so far, their actual operations in Scotland have been on a trifling scale. Such evidence as was submitted to us regarding their work relates almost entirely to England (pars. 52-59).

(18) *Direct Labour.*—Such resort as there has been to the employment of direct labour by Local Authorities has been on a small scale, and appears in each case to have been warranted by local circumstances. It has been found a convenience in connection with the construction of streets. The evidence regarding it is not sufficient to enable us to express an opinion upon it from the point of view of its effect upon the cost of houses (par. 60).

(19) *Quality of the Houses and Economies in Construction, Etc.*—While on the one hand the General Specification issued by the Scottish Board of Health leaves no room for economy except in a few details, we are satisfied on the other hand that the houses that are being erected in conformity with it will last throughout their estimated lifetime of 60 years. Some savings in details could be made on the Specification and also in connection with the grouping of houses and the lay-out (pars. 61-65).

(20) *Private Enterprise.*—The building of houses in Scotland by private enterprise with the assistance of the State subsidy of £230 to £260 per house has not, so far, made much progress ; only 2127 houses have been contracted for in this way, of which 441 have been completed. The amount of the subsidy has clearly been insufficient as an inducement to the builder, and is a good deal less than half of the capital loss which the State is at present assuming in respect of houses erected under the schemes of Local Authorities (par. 66.)

(21) *Reconstructed Property.*—Little progress has been made in the reconstruction of slum areas. There is the prospect of obtaining, by this process, in certain selected places, a moderate number of reconstructed dwellings suitable for the purposes of

the Housing Acts ; and a few have been already so obtained. There is still a considerable demand for dwelling accommodation close to the centre of urban areas. The problem of dealing with the portion of the population living in slum dwellings of the worst type is really a dual one—some are willing to take advantage of new dwellings if made available for them, while others are either positively unwilling to do so or very much slower to move. The present financial arrangements do not appear to be helping to a solution of the slum problem. This is one of the circumstances that have weighed with us in recommending a general re-survey of the housing question three years hence (pars. 67-69).

71. Our recommendations are as follows :—

- (1) That with a view to minimising for the future the difficulties inseparable from so much building activity on the part of all Local Authorities at one time, public effort be concentrated for a time on the completion of schemes already launched rather than on the making of additional commitments. We believe that in this way the building programme as a whole will really be more speedily and satisfactorily overtaken (par. 13).
- (2) While we note with satisfaction the recent extension of the subsidy period by two years, we think it may be necessary to make a further extension (par. 12).
- (3) That a re-survey of the whole problem be made, say, three years hence, when the initial period as now extended to five years will have elapsed, and the whole experience acquired during it will be at the disposal of the Government and of the Local Authorities. By that time, also, the Report of the recently appointed Committee on Local Taxation in Scotland will presumably be available for the information of the public, and may be found to have an important bearing on the position assigned to Local Authorities under the recent Housing Acts (par. 17).
- (4) That precautions be taken to ensure that the whole work and settlement of accounts under housing schemes be subjected to complete audit and survey. We are aware that this process will involve the expenditure of a certain amount of money ; but the evidence leaves us in no doubt that the neglect of it will involve the loss of a good deal more (par. 29).
- (5) That steps be taken to discontinue the use of lump-sum profit contracts and agreed price contracts ; and that as soon as trade conditions become stabilised, there should be a return to firm price contracts (pars. 25, 26, and 29).
- (6) That the ordinary processes of inspection followed by the rejection of unsuitable materials be strictly carried out in future (par. 32 (3)).
- (7) That some further encouragement be given to the use of stone in Scotland. This might be effected by increasing

the margin hitherto approved by the Scottish Board of Health between the expenditure allowed for brick and stone construction respectively. It is desirable that alternative materials be freely available and that full consideration should be given to the suitability of building with concrete (pars. 34, 42, and 43).

- (8) That further efforts to secure standardisation of materials be encouraged (par. 44).
- (9) That an early liquidation of the Scottish Branch of the Department of Building Materials Supply be arranged (par. 45).
- (10) That steps be taken to deal with the effect of "rings" and "combinations" on the prices of building materials (par. 46).
- (11) That Local Authorities should consider tenders from Guilds, though some members of the Committee are of the opinion that they should only do so where the Guilds compete on the same terms as private contractors (par. 59).
- (12) That every effort be made to carry out our suggestions for economies in construction, and in regard to the grouping of the houses, the lay-out, and the specification (pars. 62-65).
- (13) That the situation in connection with the subsidy to private enterprise should be closely reviewed at short intervals (par. 66).

72. In conclusion we wish to record our appreciation of the services rendered by the Secretary, Mr Niven F. M'Nicoll, in connection with this Inquiry.

(Signed) G. W. CURRIE, *Chairman.*
 JOHN F. ARMOUR.*
 WM. CROSS.*
 THOMAS GRAHAM.
 FORREST H. LIGHTBODY.
 JAMES LOCHHEAD.
 DAVID RONALD.
 KENNETH SANDERSON.
 JOHN TRAIN.*
 J. F. WALLACE.*
 JOHN WILSON.

NIVEN F. M'NICOLL, *Secretary.*

June 1921.

*These gentlemen have signed the Report subject to Reservations.

Mr John White, who was abroad during part of the sittings of the Committee, does not sign the Report.

NOTE by Mr DAVID RONALD and Mr JOHN WILSON.

We have signed this Report, but being officials of the Scottish Board of Health and intimately associated with the carrying out of the Housing Schemes, we do not consider it proper to associate ourselves with the finding of the Committee as to the administration of the Schemes by the Scottish Board of Health.

(Signed) DAVID RONALD.
 JOHN WILSON.

RESERVATIONS by Mr J. F. ARMOUR, Mr WM. CROSS, and Mr J. F. WALLACE.

We have signed this Report subject to the following reservations :—

Profits of Contractors, pars. 18-23.—We regard the evidence on this question as entirely unsatisfactory. The witness for the Scottish Building Contractors' Association informed us that for the most part he did not have in his possession, even regarding his own business, information of the nature we sought, and he added that even if he had, he would consider himself warranted in refusing to give us any assistance direct or indirect which would enable us to form an opinion as to whether Contractors' profits had been on a reasonable scale or not. There is therefore this element in the cost of building which must be left to the judgment of the taxpayer at whose expense the gains of the Contractors are made.

The Output of Labour, pars. 47-49.—We agree with the majority of the Committee that the evidence relating to the output of building trade operatives is conflicting, and that numerous statements made regarding it can safely be rejected. The most unsatisfactory evidence was that tendered by surveyors and public officials, who were to our mind quite evidently retailing gossip rather than giving evidence based on knowledge.

We deprecate the use of the figures 261 and 300 bricks per day in paragraph 48. We submit that the evidence of those witnesses who put forward these figures cannot be accepted on the grounds that in every schedule for brickwork accepted by the Scottish Board of Health the price of brickwork is based on an output at least nearly double the figures mentioned. If an output of 300 or 400 bricks per day had been common during 1919 and 1920 this would have been reflected in the schedule prices. If the contractors for housing schemes during these years have been kept to their schedule prices for brickwork and the output of their operatives was only 300 per day, then we may expect to hear of heavy losses in the building trade. We have received no evidence nor any indication that heavy losses have been incurred. The statement made that during the last few months there has been a remarkable improvement in output appears to us as an attempt to cover up the awkward fact that prices for houses have recently been reduced by from £150 to £300 *per house*, as compared with 3 or 4 months ago, without there being any comparable reduction in the costs of production.

The facts are that no successful offerer for housing schemes in Scotland based his offer for brickwork on as low an output as 300 or 400 bricks per day. The comparison in paragraph 48 submitted by the Board's surveyors as to the difference an output of 700 and 300 bricks per day would make in the cost of an average house therefore has no point, and further contrary to the statement in the same paragraph can give no indication as to the extent to which labour enters into the cost of a house. On this latter point it is also remarkable that the evidence given before the Committee was conflicting. In the evidence tendered by the employers on the point, profits were regarded as part of the labour costs; in fact, all that could not be charged against materials was charged against labour. This fact alone gives a clue to the numerous wild statements current regarding the output of building trade operatives. We repeat that the evidence on this subject was given in most cases quite flippantly, more with the object of making good the case against the workman that he is responsible for high prices than an attempt to assist the Committee in arriving at a just conclusion.

Main Causes of High Cost, par. 70 (8).—We do not agree that the shortening of the working week of building trade operatives is one of the main causes of the high cost of building. All workmen in the building trades are paid on an hourly basis for time worked only, and the number of hours per week, therefore, has no direct bearing on the question of cost.

Private Enterprise, par. 66.—We object to the whole principle of subsidies to private persons for building houses.

(Signed) JOHN F. ARMOUR.
WM. CROSS.
J. F. WALLACE.

RESERVATIONS by Mr JOHN TRAIN.

I have signed this Report subject to the following reservations :—

Profits of Contractors, pars. 18-23.—There is no evidence of any profits being made by Contractors on housing schemes. Indeed, it is certain that there is bound to be a loss on contracts where the output was as low as 261 to 300 bricks a day. The admission that the output improved is now reflected in the prices being reduced for housing schemes by £200 and more per house.

Return to Firm Contracts, par. 30.—I am of opinion that firm Contracts should be *at once* resorted to, as I believe this to be a big factor in the bringing down of building prices.

(Signed) JOHN TRAIN.

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